**PYTHON PROGRAM 1:**

**Write a Python program to check whether a given a binary tree is a valid binary search tree (BST) or not?**

class TreeNode(object):

def \_\_init\_\_(self, x):

self.val = x

self.left = None

self.right = None

def is\_BST(root):

stack = []

prev = None

while root or stack:

while root:

stack.append(root)

root = root.left

root = stack.pop()

if prev and root.val <= prev.val:

return False

prev = root

root = root.right

return True

root = TreeNode(2)

root.left = TreeNode(1)

root.right = TreeNode(2)

result = is\_BST(root)

print(result)

root = TreeNode(4)

root.left = TreeNode(4)

root.right = TreeNode(7)

result = is\_BST(root)

print(result)

**OUTPUT:**

